A Guide to Filing a Design Patent Application

UNITED STATES PATENT AND TRADEMARK OFFICE
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ALEXANDRIA, VIRGINIA

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A Guide To Filing A Design Patent Application

Definition of a Design

A design consists of the visual ornamental characteristics embodied in, or applied to, an article of manufacture. Since a design is manifested in appearance, the subject matter of a design patent application may relate to the configuration or shape of an article, to the surface ornamentation applied to an article, or to the combination of configuration and surface ornamentation. A design for surface ornamentation is inseparable from the article to which it is applied and cannot exist alone. It must be a definite pattern of surface ornamentation, applied to an article of manufacture.

In discharging its patent-related duties, the United States Patent and Trademark Office (USPTO or Office) examines applications and grants patents on inventions when applicants are entitled to them. The patent law provides for the granting of design patents to any person who has invented any new, original, and ornamental design for an article of manufacture. A design patent protects only the ornamental appearance of the article or an aspect of the article, and not structural or utilitarian features. The principal statutes (United States Code or U.S.C.) governing design patents are:

35 U.S.C. 171
35 U.S.C. 172
35 U.S.C. 173
35 U.S.C. 102
35 U.S.C. 103
35 U.S.C. 112
35 U.S.C. 132

The rules (Code of Federal Regulations or CFR) relating to patent applications for other inventions or discoveries are also applicable to design patent applications except as otherwise provided (37 CFR § 1.151).

Rules pertaining to the drawing disclosure of a design patent application are:

37 CFR § 1.84
37 CFR § 1.152
37 CFR § 1.121

The following additional rules have been referred to in this guide:

37 CFR § 1.3
37 CFR § 1.63
37 CFR § 1.76
37 CFR § 1.153
37 CFR § 1.154
37 CFR § 1.155

A copy of these laws and rules is included at the end of this guide.

The practice and procedures relating to design applications are set forth in chapter 1500 of the *Manual of Patent Examining Procedure* (MPEP). A current version of the MPEP is located on the USPTO Web site at ***http://www.uspto.gov/web/offices/pac/mpep/mpep.htm.*** Inquiries relating to the sale of the MPEP should be directed to the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, telephone 202-512-1800.

Types of Designs and Modified Forms

An ornamental design may be embodied in an entire article or only a portion of an article, or may be ornamentation applied to an article. If a design is directed to just surface ornamentation, it must be shown applied to an article in the drawings, and the article must be shown in broken lines, as it forms no part of the claimed design.

A design patent application may only have a single claim (37 CFR § 1.153). Designs that are independent and distinct must be filed in separate applications since they cannot be supported by a single claim. Designs are independent if there is no apparent relationship between two or more articles. For example, a pair of eyeglasses and a door handle are independent articles and must be claimed in separate applications. Designs are considered distinct if they have different shapes and appearances even though they are related articles. For example, two vases having different surface ornamentation creating distinct appearances must be claimed in separate applications. However, modified forms, or embodiments of a single design concept may be filed in one application. For example, vases with only minimal configuration differences may be considered a single design concept and both embodiments may be included in a single application.

The Difference Between Design and Utility Patents

In general terms, a "utility patent" protects the way an article is used and works (35 U.S.C. 101), while a "design patent" protects the way an article looks (35 U.S.C. 171). Both design and utility patents may be obtained on an article if invention resides both in its utility and ornamental appearance. While utility and design patents afford legally separate protection, the utility and ornamentality of an article are not easily separable. Articles of manufacture may possess both functional and ornamental characteristics.

Improper Subject Matter for Design Patents

A design for an article of manufacture that is dictated primarily by the function of the article lacks ornamentality and is not proper statutory subject matter under 35 U.S.C. 171. Specifically, if at the time the design was created, there was no unique or distinctive shape or appearance to the article not dictated by the function that it performs, the design lacks ornamentality and is not proper subject matter. In addition, 35 U.S.C. 171 requires that a design to be patentable must be "original." Clearly a design that simulates a well-known or naturally occurring object or person is not original as required by the statute. Furthermore, subject matter that could be considered offensive to any race, religion, sex, ethnic group, or nationality is not proper subject matter for a design patent application (35 U.S.C. 171 and 37 CFR § 1.3).

Invention Development Organizations

Invention Development Organizations (IDO) are private and public consulting and marketing businesses that exist to help inventors bring their inventions to market, or to otherwise profit from their ideas. While many of these organizations are legitimate, some are not. Be wary of any IDO that is willing to promote your invention or product without making a detailed inquiry into the merits of your idea and giving you a full range of options which may or may not include the pursuit of patent protection. Some IDOs will automatically recommend that you pursue patent protection for your idea with little regard for the value of any patent that may ultimately issue. For example, an IDO may recommend that you add ornamentation to your product in order to render it eligible for a design patent, but not really explain to you the purpose or effect of such a change. Because design patents protect only the appearance of an article of manufacture, it is possible that minimal ornamental differences between similar designs can render each patentable. Therefore, even though you may ultimately receive a design patent for your product, the protection afforded by such a patent may be somewhat limited. Finally, you should also be aware of the broad distinction between utility and design patents, and realize that a design patent may not give you the protection desired.

Elements of a Design Patent Application

The elements of a design patent application should include the following:

- Preamble, stating name of the applicant, title of the design, and a brief description of the nature and intended use of the article in which the design is embodied;
- Cross-reference to related applications (unless included in an application data sheet);
- Statement regarding federally sponsored research or development;
- Description of the figure(s) of the drawing;
- Feature description;
- A single claim;
- Drawings or photographs; and
- Executed oath or declaration.

In addition, the filing fee, search fee, and examination fee are also required. If the applicant is a small entity, (an independent inventor, a small business concern, or a non-profit organization), these fees are reduced by half.

The Preamble

The Preamble, if included, should state the name of the applicant, the title of the design, and a brief description of the nature and intended use of the article in which the design is embodied. All information contained in the preamble will be printed on the patent, should the claimed design be deemed patentable.

The Title

The Title of the design must identify the article in which the design is embodied by the name generally known and used by the public. Marketing designations are improper as titles and should not be used. A title descriptive of the actual article aids the examiner in developing a complete field of search of the prior art. It

further aids in the proper assignment of new applications to the appropriate class, subclass, and patent examiner, as well as the proper classification of the patent upon allowance of the application. It also helps the public in understanding the nature and use of the article embodying the design after the patent has been published. Thus, applicants are encouraged to provide a specific and descriptive title.

The Figure Descriptions

The Figure Descriptions indicate what each view of the drawings represents, *i.e.*, front elevation, top plan, perspective view, etc.

Any description of the design in the specification, other than a brief description of the drawing, is generally not necessary since the drawing is the design's best description. However, while not required, a special description is not prohibited.

In addition to the figure descriptions, the following types of statements are permissible in the specification:

- A description of the appearance of portions of the claimed design which are not illustrated in the drawing disclosure (*i.e.*, "the right side elevational view is a mirror image of the left side"),
- Description disclaiming portions of the article not shown, that form no part of the claimed design,
- Statement indicating that any broken line illustration of environmental structure in the drawing is not part of the design sought to be patented, or
- Description denoting the nature and environmental use of the claimed design, if not included in the preamble.

Feature Description

A feature description, also referred to as a "characteristic features" statement, is an optional statement included in the specification. The feature description describes a particular feature of the design considered by applicant to be a feature of novelty or nonobviousness over the prior art.

A Single Claim

A design patent application may only include a single claim. The claim defines the design which the applicant wishes to patent, in terms of the article in which it is embodied or applied. The claim must be in formal terms to "The ornamental design for (the article which embodies the design or to which it is applied) as shown." The description of the article in the claim should be consistent in terminology with the title of the invention.

When there is a properly included descriptive statement of the design in the specification, or a proper showing of modified forms of the design, or other descriptive matter has been included in the specification, the words "and described" should be added to the claim following the term "shown." The claim should then read "The ornamental design for (the article which embodies the design or to which it is applied) as shown and described."

Drawings or Black and White Photographs

The drawing disclosure is the most important element of the application. Every design patent application must include either at least one drawing or at least one black and white photograph of the claimed design. As the drawings or photographs constitute the entire visual disclosure of the claim, it is of utmost importance that the drawings or photographs be clear and complete, and that nothing regarding the design sought to be patented is left to conjecture. The design drawings or photographs must comply with the disclosure requirements of 35 U.S.C. 112, first paragraph. To meet the requirements of 35 U.S.C. 112, the drawings or photographs must include a sufficient number of views to constitute a complete disclosure of the appearance of the design claimed.

Drawings are normally required to be in black ink on white paper. Black and white photographs, in lieu of drawings, are permitted subject to the requirements of 37 CFR § 1.84(b)(1) and § 1.152. The applicant should refer to these rules, included at the end of this guide. These rules set forth in detail the requirements for proper drawings in a design patent application.

Color Drawings or Color Photographs

The Office will accept color drawings or photographs in design patent applications only after the granting of a petition filed under 37 CFR § 1.84(a)(2), explaining why the color drawings or photographs are necessary. Any such petition must include the fee set forth in 37 CFR § 1.17(h), three sets of color drawings or photographs when the petition is filed by mail via the U. S. Postal Service or one set when filed electronically via EFS-Web, and the specification must contain the following language before the description of the drawings:

> "The patent or application file contains a least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee."

If color photographs are submitted as informal drawings and the applicant does not consider the color to be part of the claimed design, a disclaimer should be added to the specification as follows: "The color shown on the claimed design forms no part thereof." Color will be considered an integral part of the disclosed and claimed design in the absence of a disclaimer filed with the original application. A disclaimer may only be used when filing color photographs as informal drawings, as 37 CFR § 1.152 requires that the disclosure in formal photographs be limited to the design for the article claimed.

The Views

The drawings or photographs should contain a sufficient number of views to completely disclose the appearance of the claimed design, *i.e.*, front, rear, right and left sides, top and bottom. While not required, it is suggested that perspective views be submitted to clearly show the appearance and shape of three-dimensional designs. If a perspective view is submitted, the surfaces shown would normally not be required to be illustrated in other views if these surfaces are clearly understood and fully disclosed in the perspective.

Views that are merely duplicates of other views of the design or that are merely flat and include no ornamentality may be omitted from the drawing if the specification makes this explicitly clear. For example, if the left and right sides of a design are identical or a mirror image, a view should be provided of one side

and a statement made in the drawing description that the other side is identical or a mirror image. If the bottom of the design is flat, a view of the bottom may be omitted if the figure descriptions include a statement that the bottom is flat and unornamented. The term "unornamented" should not be used to describe visible surfaces that include structure that is clearly not flat. In some cases, the claim may be directed to an entire article, but because all sides of the article may not be visible during normal use, it is not necessary to disclose them. A sectional view which more clearly brings out elements of the design is permissible, however a sectional view presented to show functional features, or interior structure not forming part of the claimed design, is neither required nor permitted.

Surface Shading

The drawing should be provided with appropriate surface shading which shows clearly the character and contour of all surfaces of any three-dimensional aspects of the design. Surface shading is also necessary to distinguish between any open and solid areas of the design. Solid black surface shading is not permitted except when used to represent the color black as well as color contrast. Lack of appropriate surface shading in the drawing as filed may render the shape and contour of the design nonenabling under 35 U.S.C. 112, first paragraph. Additionally, if the shape of the design is not evident from the disclosure as filed, addition of surface shading after filing may be viewed as new matter. New matter is anything that is added to, or from, the claim, drawings or specification, that was neither shown nor suggested in the original application (see 35 U.S.C. 132 and 37 CFR § 1.121, at the end of this guide).

Broken Lines

If broken lines are used in the drawings, applicant must describe the purpose of the broken lines with a statement in the specification. Structure that is not part of the claimed design, but is considered necessary to show the environment in which the design is used, may be represented in the drawing by broken lines. This includes any portion of an article in which the design is embodied or applied to that is not considered part of the claimed design. When the claim is directed to just surface ornamentation for an article, the article to which it is applied must be shown in broken lines.

In general, when broken lines are used, they should not intrude upon or cross the showing of the claimed design and should not be of heavier weight than the lines used in depicting the claimed design. Where a broken line showing of environmental structure must necessarily cross or intrude upon the representation of the claimed design and obscures a clear understanding of the design, such an illustration should be included as a separate figure in addition to the other figures which fully disclose the subject matter of the design.

The Oath or Declaration

The oath or declaration required of the applicant must comply with the requirements set forth in 37 CFR § 1.63.

Disclosure Examples

So that the applicant will better understand what constitutes a complete disclosure, examples of drawing disclosures and their accompanying specifications are provided on the following pages.

Disclosure Examples

Example 1 - Disclosure Of The Entire Article

I, John Doe, have invented a new design for a jewelry cabinet, as set forth in the following specification. The claimed jewelry cabinet is used to store jewelry and could sit on a bureau.

Fig. 1 is a front elevational view of a jewelry cabinet showing my new design;

Fig. 2 is a rear elevational view thereof;

Fig. 3 is a left side elevational view thereof;

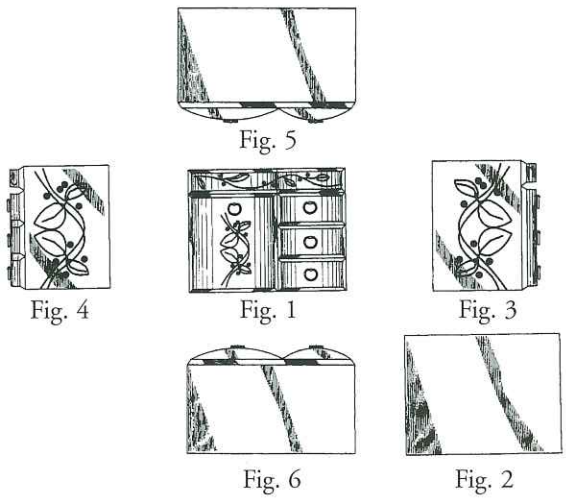
Fig. 4 is a right side elevational view thereof;

Fig. 5 is a top plan view thereof; and

Fig. 6 is a bottom plan view thereof.

I claim: the ornamental design for a jewelry cabinet as shown.

Specification



Drawing Disclosure

Disclosure Examples

Example 2 - Disclosure of only the surfaces of an article that are visible during use (no bottom view or description necessary)

I, John Doe, have invented a new design for a jewelry cabinet, as set forth in the following specification. The claimed jewelry cabinet is used to store jewelry and could sit on a bureau.

Fig. 1 is a front elevational view of a jewelry cabinet showing my new design;

Fig. 2 is a rear elevational view thereof;

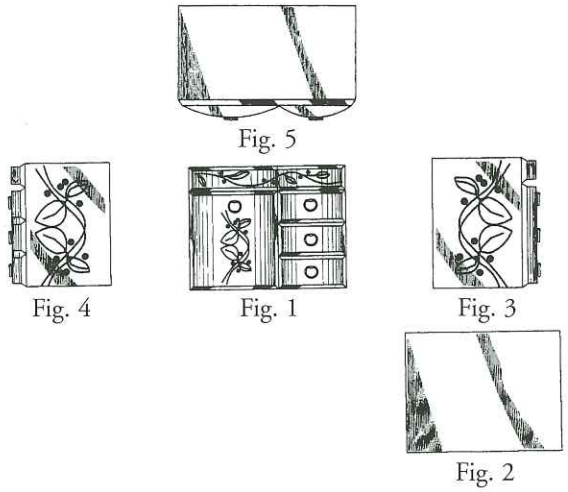
Fig. 3 is a left side elevational view thereof;

Fig. 4 is a right side elevational view thereof;

Fig. 5 is a top plan view thereof.

I claim: the ornamental design for a jewelry cabinet as shown.

Specification



Drawing Disclosure

Disclosure Examples

Example 3 - Disclosure of only the surfaces of an article that are visible during use - The rear view disclosed by description

I, John Doe, have invented a new design for a jewelry cabinet, as set forth in the following specification. The claimed jewelry cabinet is used to store jewelry and could sit on a bureau.

Fig. 1 is a front elevational view of a jewelry cabinet showing my new design;

Fig. 2 is a left side elevational view thereof;

Fig. 3 is a right side elevational view thereof; and

Fig. 4 is a top plan view thereof.

The rear of the jewelry cabinet is flat and unornamented.

I claim: the ornamental design for a jewelry cabinet as shown.

Specification

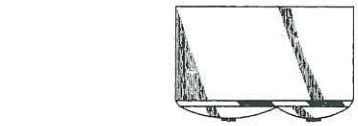


Fig. 4

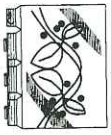


Fig. 3

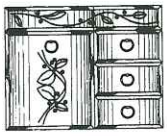


Fig. 1

Fig. 2

Drawing Disclosure

Disclosure Examples

Example 4 - Disclosure of a surface pattern as claimed design, applied to an article

I, John Doe, have invented a new design for a surface pattern applied to a jewelry cabinet, as set forth in the following specification. The jewelry cabinet is used to store jewelry and could sit on a bureau.

Fig. 1 is a front elevational view of a jewelry cabinet showing my new design;

Fig. 2 is a left side elevational view thereof, the right side being a mirror image.

The design is directed to the surface pattern applied to a jewelry cabinet. The jewelry cabinet is shown in broken lines to indicate that it forms no part of the claimed design.

I claim: the ornamental design for a jewelry cabinet as shown and described.

Specification

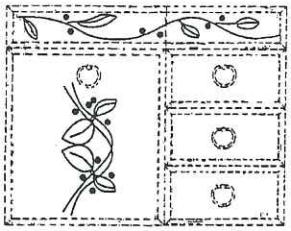


Fig. 1

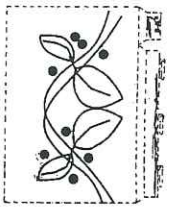


Fig. 2

Drawing Disclosure

The Design Patent Application Process

The preparation of a design patent application and the conducting of the proceedings in the USPTO to obtain the patent is an undertaking requiring the knowledge of patent law and rules and Office practice and procedures. A patent attorney or agent specially trained in this field is best able to secure the greatest patent protection to which the applicant is entitled. It would be prudent to seek the services of a registered patent attorney or agent. Representation, however, is not required. A knowledgeable applicant may successfully prosecute his or her own application. However, while persons not skilled in this work may obtain a patent in many cases, there is no assurance that the patent obtained would adequately protect the particular design.

Of primary importance in a design patent application is the drawing disclosure, which illustrates the design being claimed. Unlike a utility application, where the "claim" describes the invention in a lengthy written explanation, the claim in a design patent application protects the overall visual appearance of the design, "described" in the drawings. It is essential that the applicant present a set of drawings (or photographs) of the highest quality which conform to the rules and standards which are reproduced in this guide. Changes to these drawings after the application has been filed may introduce new matter, which is not permitted by law (35 U.S.C. 132). It is in the applicant's best interest to ensure that the drawing disclosure is clear and complete prior to filing the application, since an incomplete or poorly prepared drawing may result in a fatally defective disclosure which cannot become a patent. It is recommended that the applicant retain the services of a professional draftsperson who specializes in preparing design patent drawings. Examples of acceptable drawings and drawing disclosures are included in this guide so that the applicant will have some idea of what is required and can prepare the drawings accordingly.

Filing An Application

In addition to the drawing disclosure, certain other information is necessary. While no specific format is required, it is strongly suggested that the applicant follow the formats presented to ensure that the application is complete.

A design patent application can be filed with the USPTO through the Office's electronic filing system called EFS-Web, by mail via the U. S. Postal Service, or by hand delivery to the Office in Alexandria, Virginia. EFS-Web is a web-based patent application and document submission system with which anyone using a web-enabled computer may file patent applications and documents without downloading special software or changing document preparation tools and processes. Full technical support for EFS-Web is available through the Patent Electronic Business Center (EBC) at 866-217-9197 from 6 a.m. to 12 midnight Eastern Standard Time (EST), Monday through Friday, except Federal holidays. For more information on EFS-Web, see the USPTO Web site at *www.uspto.gov/ebc/index.html.*

When a complete design patent application, along with the appropriate filing fee, is received by the Office, it is assigned an Application Number and a Filing Date. A "Filing Receipt" containing this information is sent to the applicant. The application is then assigned to an examiner. Applications are examined in order of their filing date.

Examination

The actual "examination" entails checking for compliance with formalities, ensuring completeness of the drawing disclosure and a comparison of the claimed subject matter with the "prior art." "Prior art" consists of

issued patents and published materials. If the claimed subject matter is found to be patentable, the application will be "allowed," and instructions will be provided to the applicant for completing the process to permit issuance as a patent.

The examiner may reject the claim in the application if the disclosure cannot be understood or is incomplete, or if a reference or combination of references found in the prior art shows the claimed design to be unpatentable. The examiner will then issue an Office action detailing the rejection and addressing the substantive matters which affect patentability.

The Office action may also contain suggestions by the examiner for amendments the applicant may make to the application. The applicant should keep this Office action for his or her files, and not send it back to the Office.

Response

If, after receiving an Office action, the applicant elects to continue prosecution of the application, a timely reply to the action must be submitted. This reply should include a request for reconsideration or further examination of the claim, along with any amendments desired by the applicant, and must be in writing. The reply must distinctly and specifically point out the supposed errors in the Office action and must address every objection and/or rejection in the action. If the examiner has rejected the claim over prior art, a general statement by the applicant that the claim is patentable, without specifically pointing out how the design is patentable over the prior art, does not comply with the rules.

In all cases where the examiner has said that a reply to a requirement is necessary, or where the examiner has indicated patentable subject matter, the reply must comply with the requirements set forth by the examiner, or specifically argue each requirement as to why compliance should not be required.

In any communication with the Office, the applicant should include the following items:

- Application number (checked for accuracy),
- Group art unit number (copied from filing receipt or the most recent Office action),
- Filing date,
- Name of the examiner who prepared the most recent Office action, and
- Title of invention.

It is the applicant's responsibility to make sure that the reply is received by the Office prior to the expiration of the designated time period set for reply. This time period is set to run from the "Date Mailed," which is indicated on the first page of the Office action. If the reply is not received within the designated time period, the application will be considered abandoned. In the event that the applicant is unable to reply within the time period set in the Office action, abandonment may be prevented if a reply is filed within six months from the mail date of the Office action provided a petition for extension of time and the fee set forth in 37 CFR § 1.17(a) are filed. The fee is determined by the amount of time requested, and increases as the length of time increases. These fees are set by Rule and could change at any time. An "Extension of Time" does not have to be obtained prior to the submission of a reply to an Office action; it may be mailed along with the reply. Current fee information is located on the USPTO Web site at www.uspto.gov/main/howtofees.htm. Note: an extension of time cannot be obtained when responding to a "Notice of Allowance and Fee(s) Due."

To ensure that a time period set for reply to an Office action is not missed; applicant should respond using EFS-Web, the USPTO's web-based patent application and document submission system, or by attaching a "Certificate of Mailing" to the reply when mailed using the United States Postal Service. This "Certificate of Mailing" establishes that the reply is being mailed on a given date. It also establishes that the reply is timely, if it was mailed before the period for reply had expired, and if it is mailed with the United States Postal Service. A "Certificate of Mailing" is not the same as "Certified Mail." A suggested format for a Certificate of Mailing is as follows:

> "I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450, on (DATE MAILED)"
>
> (Name - Typed or Printed) _____
>
> Signature _____
>
> Date _____

If a receipt for any paper filed in the USPTO is desired, the applicant should include a stamped, self-addressed postcard, which lists on the message side of the postcard the applicant's name and address, the application number, filing date, and the types of papers submitted with the reply (*i.e.*, 1 sheet of drawings, 2 pages of amendments, 1 page of an oath/declaration, etc.). This postcard will be stamped with the date of receipt by the mailroom and returned to the applicant. This postcard will be the applicant's evidence that the reply was received by the Office on that date.

If the applicant changes his or her mailing address after filing an application, the Office must be notified in writing of the new address. Failure to do so will result in future communications being mailed to the old address, and there is no guarantee that these communications will be forwarded to the applicant's new address. The applicant's failure to receive, and properly reply to these Office communications will result in the application being held abandoned. Notification of "Change of Correspondence Address" should be made by separate letter, and a separate notification should be filed for each application.

Reconsideration

Upon submission of a reply to an Office action, the application will be reconsidered and further examined in view of the applicant's remarks and any amendments included with the reply. The examiner will then either withdraw the rejection and allow the application or, if not persuaded by the remarks and/or amendments submitted, repeat the rejection and make it Final. The applicant may file an appeal with the Board of Patent Appeals and Interferences after receiving a final rejection or after the claim has been rejected twice. The applicant may also file a new application prior to the abandonment of an earlier-filed application, claiming benefit of the earlier filing date. This will allow continued prosecution of the claim.

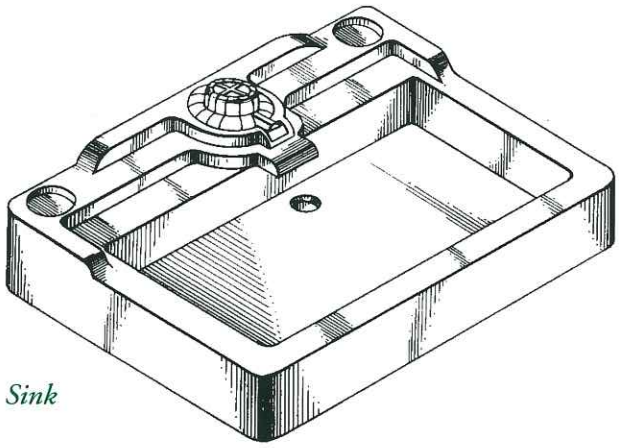
Questions regarding a design patent application and its forms may be directed to Joel Sincavage, Design Patent Practice Specialist at 571.272.2610.

Drawing Examples

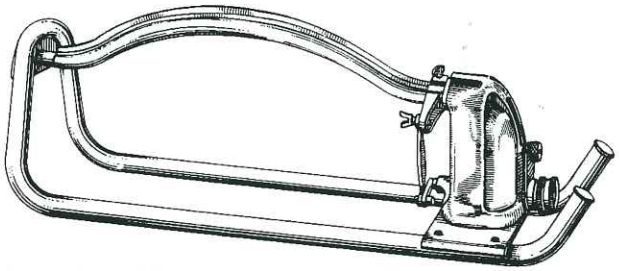
The two types of shading commonly employed in design patent application drawings are straight-line surface shading and stippling. Individually or in combination, they can effectively represent the character and contour of most surfaces.

Straight-line Surface Shading

Wrist Watch



Sink

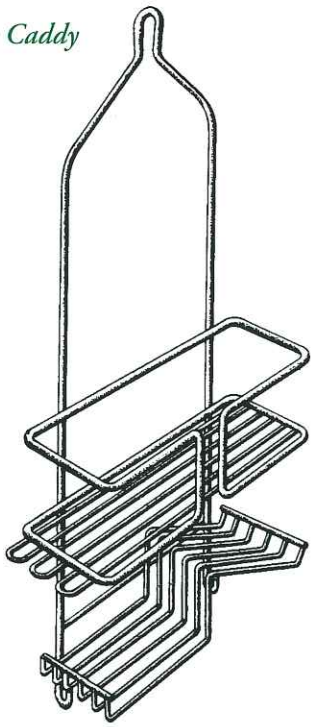


Lawn Sprinkler

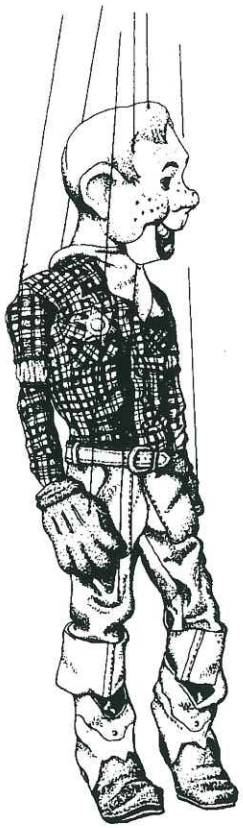
Vacuum Cleaner

Stippling

Shower Caddy



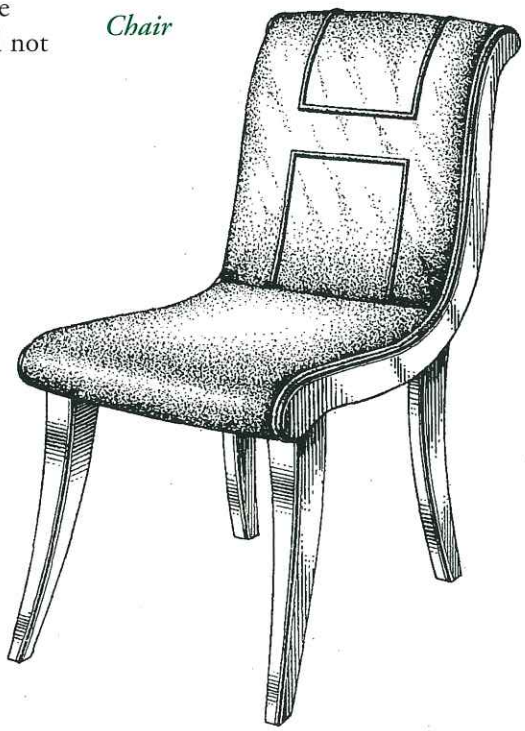
Puppet

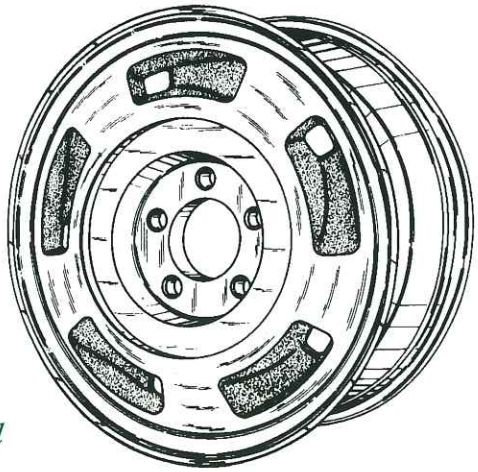


Combination of Straight Line Shading and Stippling

Note that both stippling and straight-line surface shading, while permissible on the same object to show surface contrast, should not be used together on the same surface.

Chair



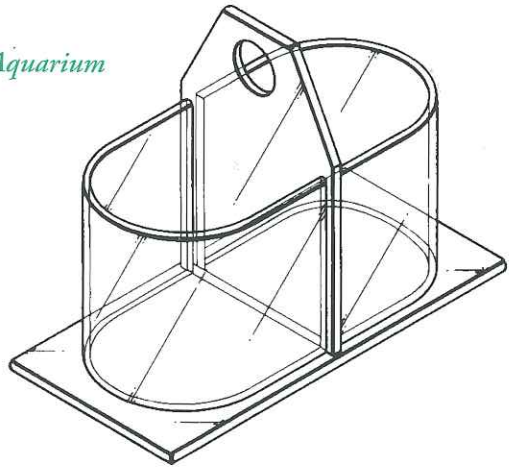


Wheel

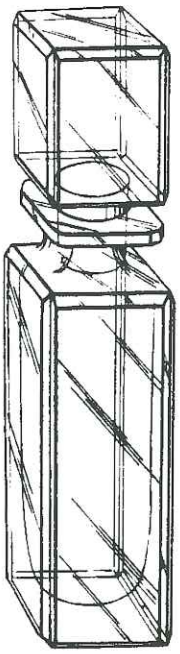
Transparent Materials

Note that elements visible behind transparent surfaces should be shown in light, full lines, not broken lines.

Aquarium



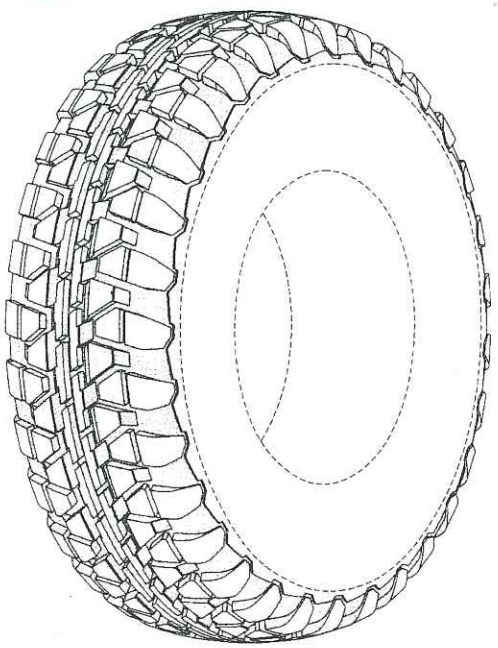
Perfume Bottle

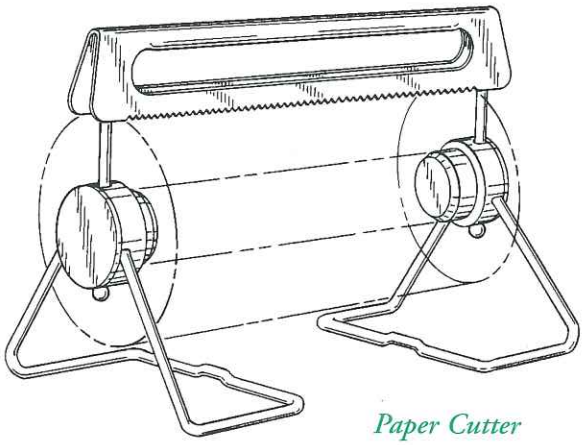


Broken Line Disclosure

Broken lines may be used to show environment and boundaries that form no part of the claimed design.

Tire



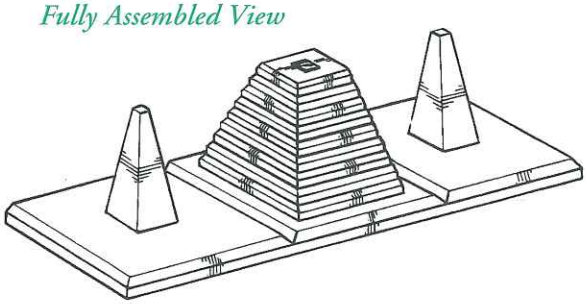


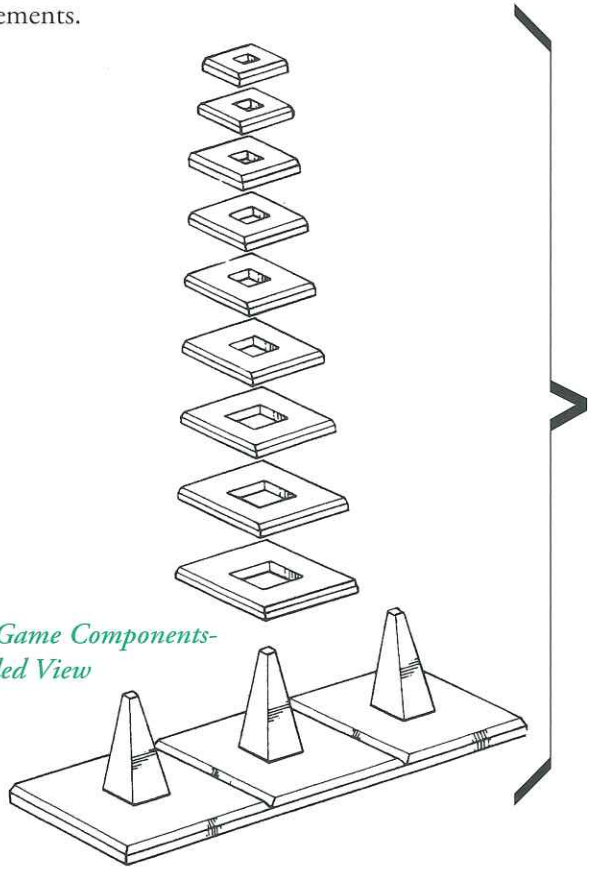
Paper Cutter

Exploded View

An exploded view is only supplementary to a fully assembled view. A bracket must be employed to show the association of elements.

Set of Game Components- Fully Assembled View

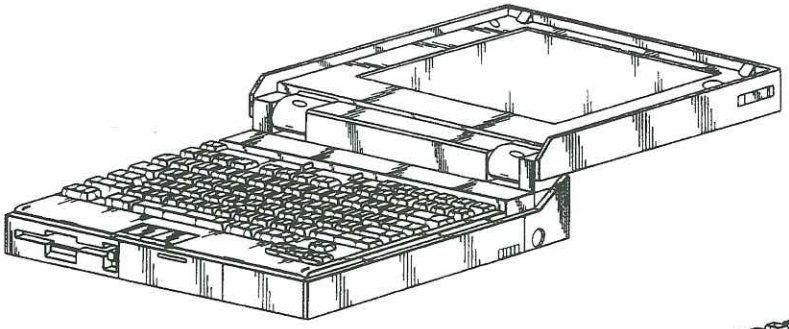


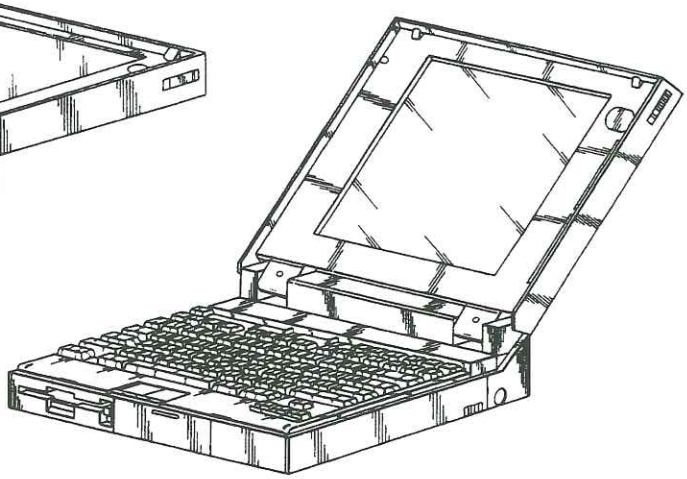


Set of Game Components- Exploded View

Alternate Positions

The alternate positions of a design, or an element of the design, must be shown in separate views.

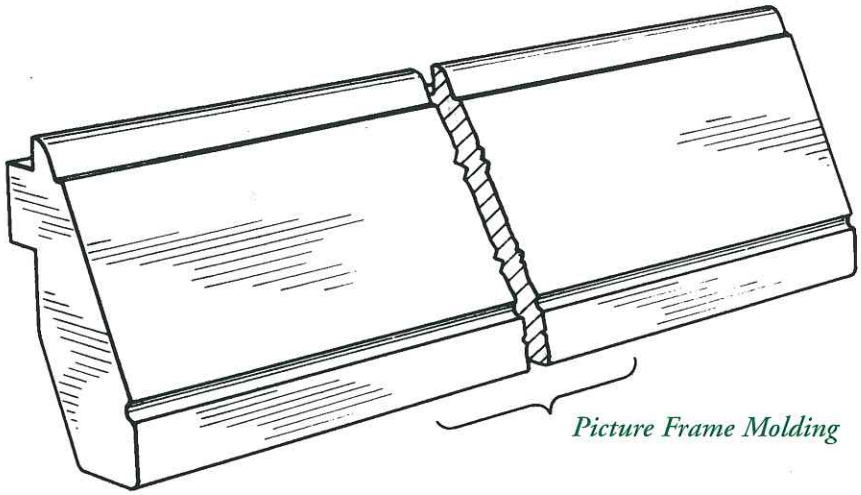




Personal Computer

Indeterminate Length

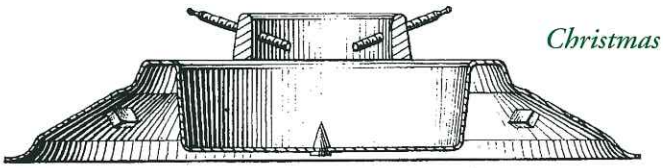
Note the use of a separation and a bracket to indicate that no particular length for the molding is claimed.



Picture Frame Molding

Cross-sectional View

Cross-sections may be employed to clarify the disclosure and to minimize the number of views.

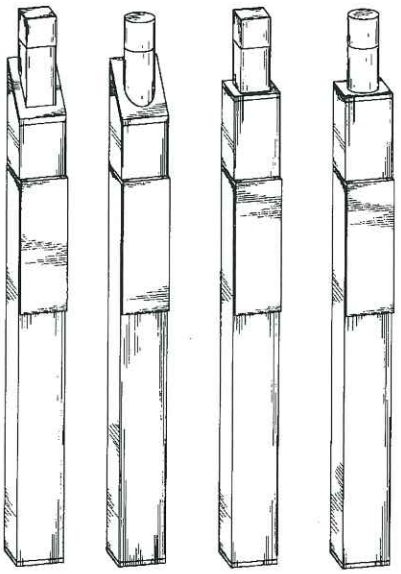


Christmas Tree Stand

Multiple Embodiments

Multiple embodiments of a single concept may be permitted in one design application, so long as their appearance and shape are similar, as shown below.

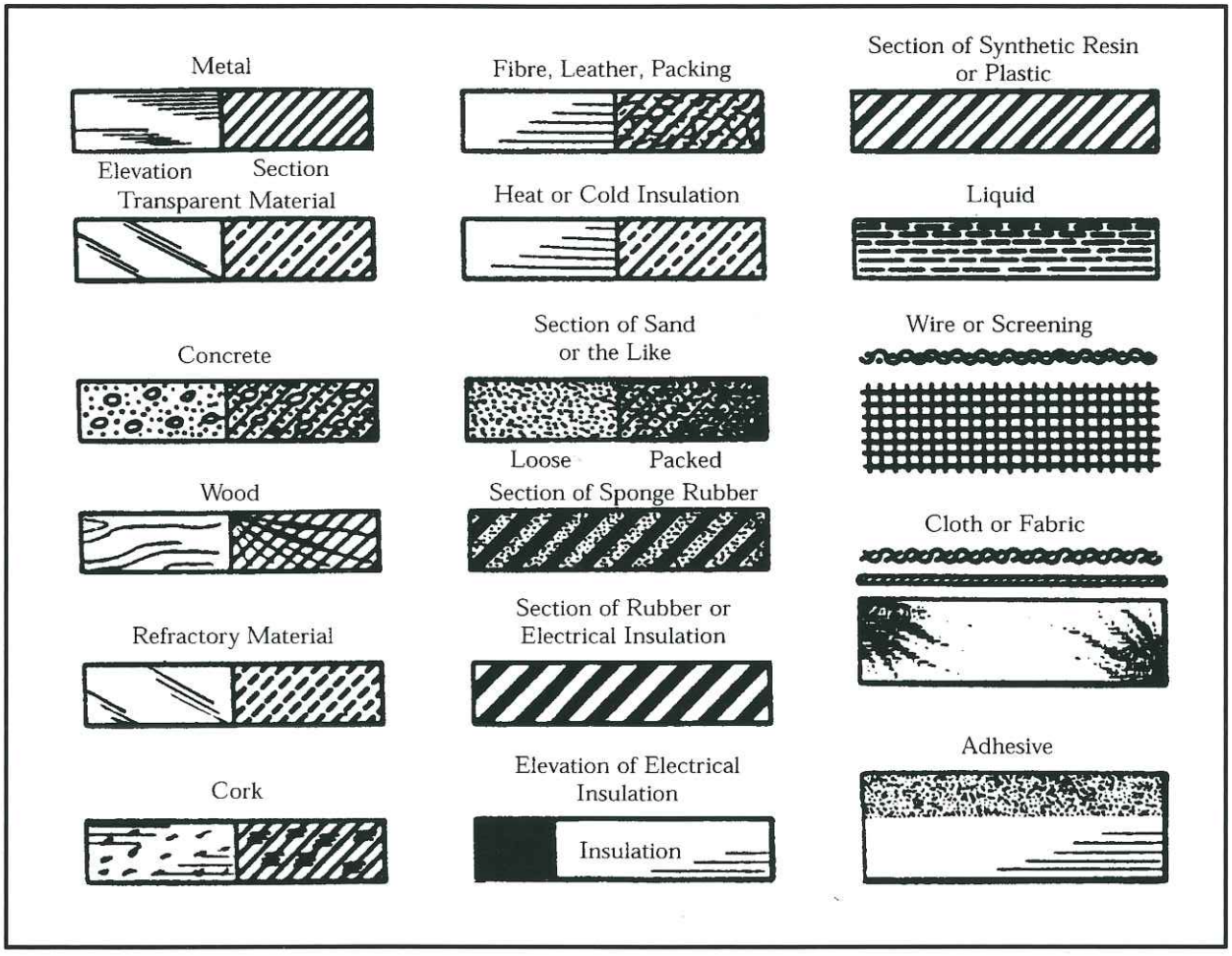
Combined Writing Instrument And Pocket Holder Therefor



Symbols for Draftsmen

Graphical symbols for conventional elements may be used on the drawing when appropriate, subject to approval by the Office.

NOTES: In general, in lieu of a symbol, a conventional element, combination or circuit may be shown by an appropriately labeled rectangle, square or circle; abbreviations should not be used unless their meaning is evident and not confusing with the abbreviations used in the suggested symbols.



Patent Laws That Apply to Design Patent Applications

35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States,

or

(c) he has abandoned the invention,

or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States,

or

(e) the invention was described in:

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or

(f) he did not himself invent the subject matter sought to be patented,

or

(g)

(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or

(2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of

conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. 103 Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(b)

(1) Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if:

(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective filing date;

and

(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.

(2) A patent issued on a process under paragraph (1)-

(A) shall also contain the claims to the composition of matter used in or made by that process,

or

(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.

(3) For purposes of paragraph (1), the term "biotechnological process" means-

(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to-

(i) express an exogenous nucleotide sequence,

(ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence,

or

(iii) express a specific physiological characteristic not naturally associated with said organism;

(B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody;

and

(C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).

(c)

(1) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

(2) For purposes of this subsection, subject matter developed by another person and a claimed invention shall be deemed to have been owned by the same person or subject to an obligation of assignment to the same person if:

(A) the claimed invention was made by or on behalf of parties to a joint research agreement that was in effect on or before the date the claimed invention was made;

(B) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and

(C) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement.

(3) For purposes of paragraph (2), the term "joint research agreement" means a written contract, grant, or cooperative agreement entered into by two or more persons or entities for the performance of experimental, developmental, or research work in the field of the claimed invention.

35 U.S.C. 112 Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. 132 Notice of rejection; reexamination

(a) Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Director shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application; and if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be reexamined. No amendment shall introduce new matter into the disclosure of the invention.

(b) The Director shall prescribe regulations to provide for the continued examination of applications for patent at the request of the applicant. The Director may establish appropriate fees for such continued examination and shall provide a 50 percent reduction in such fees for small entities that qualify for reduced fees under section 41(h)(1) of this title.

35 U.S.C. 171 Patents for designs

Whoever invents any new, original, and ornamental design for an article of manufacture may obtain a patent therefore, subject to the conditions and requirements of this title.

The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.

35 U.S.C. 172 Right of priority

The right of priority provided for by subsections (a) through (d) of section 119 of this title and the time specified in section 102(d) shall be six months in the case of designs. The right of priority provided for by section 119(e) of this title shall not apply to designs.

35 U.S.C. 173 Term of design patent

Patents for designs shall be granted for the term of fourteen years from the date of grant.

Patent Rules That Apply to Design Patent Applications

37 CFR 1.3 Business to be conducted with decorum and courtesy

Applicants and their attorneys or agents are required to conduct their business with the Patent and Trademark Office with decorum and courtesy. Papers presented in violation of this requirement will be submitted to the Director and will not be entered. A notice of the non-entry of the paper will be provided. Complaints against examiners and other employees must be made in correspondence separate from other papers.

37 CFR 1.63 Oath or declaration

(a) An oath or declaration filed under § 1.51(b)(2), as a part of a nonprovisional application must:

(1) Be executed, *i.e.*, signed, in accordance with either § 1.66 or § 1.68. There is no minimum age for a person to be qualified to sign, but the person must be competent to sign, *i.e.*, understand the document that the person is signing;

(2) Identify each inventor by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial;

(3) Identify the country of citizenship of each inventor;

and

(4) State that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

(b) In addition to meeting the requirements of paragraph (a) of this section, the oath or declaration must also:

(1) Identify the application to which it is directed;

(2) State that the person making the oath or declaration has reviewed and understands the contents of the application, including the claims, as amended by any amendment specifically referred to in the oath or declaration;

and

(3) State that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56.

(c) Unless such information is supplied on an application data sheet in accordance with § 1.76, the oath, or declaration must also identify:

(1) The mailing address, and the residence if an inventor lives at a location which is different from where the inventor customarily receives mail, of each inventor;

and

(2) Any foreign application for patent (or inventor's certificate) for which a claim for priority is made pursuant to § 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month, and year of its filing.

(d)

(1) A newly executed oath or declaration is not required under § 1.51(b)(2) and § 1.53(f) in a continuation or divisional application, provided that:

(i) The prior nonprovisional application contained an oath or declaration as prescribed by paragraphs (a) through (c) of this section;

(ii) The continuation or divisional application was filed by all or by fewer than all of the inventors named in the prior application;

(iii) The specification and drawings filed in the continuation or divisional application contain no matter that would have been new matter in the prior application;

and

(iv) A copy of the executed oath or declaration filed in the prior application, showing the signature or an indication thereon that it was signed, is submitted for the continuation or divisional application.

(2) The copy of the executed oath or declaration submitted under this paragraph for a continuation or divisional application must be accompanied by a statement requesting the deletion of the name or names of the person or persons who are not inventors in the continuation or divisional application.

(3) Where the executed oath or declaration of which a copy is submitted for a continuation or divisional application was originally filed in a prior application accorded status under § 1.47, the copy of the executed oath or declaration for such prior application must be accompanied by:

(i) A copy of the decision granting a petition to accord § 1.47 status to the prior application, unless all inventors or legal representatives have filed an oath or declaration to join in an application accorded status under § 1.47 of which the continuation or divisional application claims a benefit under 35 U.S.C. 120, 121, or 365(c);

and

(ii) If one or more inventor(s) or legal representative(s) who refused to join in the prior application or could not be found or reached has subsequently joined in the prior application or another application of which the continuation or divisional application claims a benefit under 35 U.S.C. 120, 121, or 365(c), a copy of the subsequently executed oath(s) or declaration(s) filed by the inventor or legal representative to join in the application.

(4) Where the power of attorney or correspondence address was changed during the prosecution of the prior application, the change in power of attorney or correspondence address must be identified in the continuation or divisional application. Otherwise, the Office may not recognize in the continuation or divisional application the change of power of attorney or correspondence address during the prosecution of the prior application.

(5) A newly executed oath or declaration must be filed in a continuation or divisional application naming an inventor not named in the prior application.

(e) A newly executed oath or declaration must be filed in any continuation-in-part application, which application may name all, more, or fewer than all of the inventors named in the prior application.

37 CFR 1.76 Application data sheet

(a) **Application data sheet.** An application data sheet is a sheet or sheets, that may be voluntarily submitted in either provisional or nonprovisional applications, which contains bibliographic data, arranged in a format specified by the Office. An application data sheet must be titled "Application Data Sheet" and must contain all of the section headings listed in paragraph (b) of this section, with any appropriate data for each section heading. If an application data sheet is provided, the application data sheet is part of the provisional or nonprovisional application for which it has been submitted.

(b) **Bibliographic data.** Bibliographic data as used in paragraph (a) of this section includes:

(1) **Applicant information.** This information includes the name, residence, mailing address, and citizenship of each applicant (§ 1.41(b)). The name of each applicant must include the family name, and at least one given name without abbreviation together with any other given name or initial. If the applicant is not an inventor, this information also includes the applicant's authority (§§ 1.42, 1.43, and 1.47) to apply for the patent on behalf of the inventor.

(2) **Correspondence information.** This information includes the correspondence address, which may be indicated by reference to a customer number, to which correspondence is to be directed (see § 1.33(a)).

(3) **Application information.** This information includes the title of the invention, a suggested classification, by class and subclass, the Technology Center to which the subject matter of the invention is assigned, the total number of drawing sheets, a suggested drawing figure for publication (in a nonprovisional application), any docket number assigned to the application, the type of application (*e.g.*, utility, plant, design, reissue, provisional), whether the application discloses any significant part of the subject matter of an application under a secrecy order pursuant to § 5.2 of this chapter (see § 5.2(c)), and, for plant applications, the Latin name of the genus and species of the plant claimed, as well as the variety denomination. The suggested classification and Technology Center information should be supplied for provisional applications whether or not claims are present. If claims are not present in a provisional application, the suggested classification and Technology Center should be based upon the disclosure.

(4) **Representative information.** This information includes the registration number of each practitioner having a power of attorney in the application (preferably by reference to a customer number). Providing this information in the application data sheet does not constitute a power of attorney in the application (see § 1.32).

(5) **Domestic priority information.** This information includes the application number, the filing date, the status (including patent number if available), and relationship of each application for which a benefit is claimed under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and § 1.78(a)(2) or § 1.78(a)(5), and need not otherwise be made part of the specification.

(6) **Foreign priority information.** This information includes the application number, country, and filing date of each foreign application for which priority is claimed, as well as any foreign application having a filing date before that of the application for which priority is claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and § 1.55(a).

(7) **Assignee information.** This information includes the name (either person or juristic entity) and address of the assignee of the entire right, title, and interest in an application. Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of this chapter to have an assignment recorded by the Office.

(c) **Supplemental application data sheets.** Supplemental application data sheets:

(1) May be subsequently supplied prior to payment of the issue fee either to correct or update information in a previously submitted application data sheet, or an oath or declaration under § 1.63 or § 1.67, except that inventorship changes are governed by § 1.48, correspondence changes are governed by § 1.33(a), and citizenship changes are governed by § 1.63 or § 1.67;

and

(2) Must be titled "Supplemental Application Data Sheet," include all of the section headings listed in paragraph (b) of this section, include all appropriate data for each section heading, and must identify the information that is being changed, preferably with underlining for insertions, and strike-through or brackets for text removed.

(d) **Inconsistencies between application data sheet and other documents.** For inconsistencies between information that is supplied by both an application data sheet under this section and other documents.

(1) The latest submitted information will govern notwithstanding whether supplied by an application data sheet, an amendment to the specification, a designation of a correspondence address, or by a § 1.63 or § 1.67 oath or declaration, except as provided by paragraph (d)(3) of this section;

(2) The information in the application data sheet will govern when the inconsistent information is supplied at the same time by an amendment to the specification, a designation of correspondence address, or a § 1.63 or § 1.67 oath or declaration, except as provided by paragraph (d)(3) of this section;

(3) The oath or declaration under § 1.63 or § 1.67 governs inconsistencies with the application data sheet in the naming of inventors (§ 1.41(a)(1)) and setting forth their citizenship (35 U.S.C. 115);

(4) The Office will capture bibliographic information from the application data sheet (notwithstanding whether an oath or declaration governs the information). Thus, the Office shall generally, for example, not look to an oath or declaration under § 1.63 to see if the bibliographic information contained therein is consistent with the bibliographic information captured from an application data sheet (whether the oath or declaration is submitted prior to or subsequent to the application data sheet). Captured bibliographic information derived from an application data sheet containing errors may be corrected if applicant submits a request therefor and a supplemental application data sheet.

37 CFR 1.84 Standards for drawings

(a) **Drawings.** There are two acceptable categories for presenting drawings in utility and design patent applications.

(1) **Black ink.** Black and white drawings are normally required. India ink, or its equivalent that secures solid black lines, must be used for drawings;

or

(2) **Color.** On rare occasions, color drawings may be necessary as the only practical medium by which to disclose the subject matter sought to be patented in a utility or design patent application or the subject matter of a statutory invention registration. The color drawings must be of sufficient quality such that all details in the drawings are reproducible in black and white in the printed patent. Color drawings are not permitted in international applications (see PCT Rule 11.13), or in an application, or copy thereof, submitted under the Office electronic filing system. The Office will accept color drawings in utility or design patent applications and statutory invention registrations only after granting a petition filed under this paragraph explaining why the color drawings are necessary. Any such petition must include the following:

(i) The fee set forth in § 1.17(h);

(ii) Three (3) sets of color drawings;

(iii) An amendment to the specification to insert (unless the specification contains or has been previously amended to contain) the following language as the first paragraph of the brief description of the drawings:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

(b) **Photographs.**

(1) **Black and white.** Photographs, including photocopies of photographs, are not ordinarily permitted in utility and design patent applications. The Office will accept photographs in utility and design patent applications, however, if photographs are the only practicable medium for illustrating the claimed invention. For example, photographs or photomicrographs of: electrophoresis gels, blots (*e.g.*, immunological, western, Southern, and northern), autoradiographs, cell cultures (stained and unstained), histological tissue cross sections (stained and unstained), animals, plants, in vivo imaging, thin layer chromatography plates, crystalline structures, and, in a design patent application, ornamental effects, are acceptable. If the subject matter of the application admits of illustration by a drawing, the examiner may require a drawing in place of the photograph. The photographs must be of sufficient quality so that all details in the photographs are reproducible in the printed patent.

(2) **Color photographs.** Color photographs will be accepted in utility and design patent applications if the conditions for accepting color drawings and black and white photographs have been satisfied. See paragraphs (a)(2) and (b)(1) of this section.

(c) **Identification of drawings.** Identifying indicia should be provided, and if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet within the top margin. Each drawing sheet submitted after the

filing date of an application must be identified as either "Replacement Sheet" or "New Sheet" pursuant to § 1.121(d). If a marked-up copy of any amended drawing figure including annotations indicating the changes made is filed, such marked-up copy must be clearly labeled as "Annotated Sheet" pursuant to § 1.121(d)(1).

(d) **Graphic forms in drawings.** Chemical or mathematical formulae, tables, and waveforms may be submitted as drawings and are subject to the same requirements as drawings. Each chemical or mathematical formula must be labeled as a separate figure, using brackets when necessary, to show that information is properly integrated. Each group of waveforms must be presented as a single figure, using a common vertical axis with time extending along the horizontal axis. Each individual waveform discussed in the specification must be identified with a separate letter designation adjacent to the vertical axis.

(e) **Type of paper.** Drawings submitted to the Office must be made on paper which is flexible, strong, white, smooth, non-shiny, and durable. All sheets must be reasonably free from cracks, creases, and folds. Only one side of the sheet may be used for the drawing. Each sheet must be reasonably free from erasures and must be free from alterations, overwritings, and interlineations. Photographs must be developed on paper meeting the sheet-size requirements of paragraph (f) of this section and the margin requirements of paragraph (g) of this section. See paragraph (b) of this section for other requirements for photographs.

(f) **Size of paper.** All drawing sheets in an application must be the same size. One of the shorter sides of the sheet is regarded as its top. The size of the sheets on which drawings are made must be:

(1) 21.0 cm. by 29.7 cm. (DIN size A4), or

(2) 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches).

(g) **Margins.** The sheets must not contain frames around the sight (*i.e.*, the usable surface), but should have scan target points (*i.e.*, cross-hairs) printed on two cater-corner margin corners. Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch), thereby leaving a sight no greater than 17.0 cm. by 26.2 cm. on 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6 cm. by 24.4 cm. (6 15/16 by 9 5/8 inches) on 21.6 cm. by 27.9 cm. (8 1/2 by 11 inch) drawing sheets.

(h) **Views.** The drawing must contain as many views as necessary to show the invention. The views may be plan, elevation, section, or perspective views. Detail views of portions of elements, on a larger scale if necessary, may also be used. All views of the drawing must be grouped together and arranged on the sheet(s) without wasting space, preferably in an upright position, clearly separated from one another, and must not be included in the sheets containing the specifications, claims, or abstract. Views must not be connected by projection lines and must not contain center lines. Waveforms of electrical signals may be connected by dashed lines to show the relative timing of the waveforms.

(1) **Exploded views.** Exploded views, with the separated parts embraced by a bracket, to show the relationship or order of assembly of various parts are permissible. When an exploded view is shown in a figure which is on the same sheet as another figure, the exploded view should be placed in brackets.

(2) **Partial views.** When necessary, a view of a large machine or device in its entirety may be broken into partial views on a single sheet, or extended over several sheets if there is no loss in facility of understanding the view. Partial views drawn on separate sheets must always be capable of being linked edge to edge so that no partial view contains parts of another partial view. A smaller scale

view should be included showing the whole formed by the partial views and indicating the positions of the parts shown. When a portion of a view is enlarged for magnification purposes, the view and the enlarged view must each be labeled as separate views.

(i) Where views on two or more sheets form, in effect, a single complete view, the views on the several sheets must be so arranged that the complete figure can be assembled without concealing any part of any of the views appearing on the various sheets.

(ii) A very long view may be divided into several parts placed one above the other on a single sheet. However, the relationship between the different parts must be clear and unambiguous.

(3) **Sectional views.** The plane upon which a sectional view is taken should be indicated on the view from which the section is cut by a broken line. The ends of the broken line should be designated by Arabic or Roman numerals corresponding to the view number of the sectional view, and should have arrows to indicate the direction of sight. Hatching must be used to indicate section portions of an object, and must be made by regularly spaced oblique parallel lines spaced sufficiently apart to enable the lines to be distinguished without difficulty. Hatching should not impede the clear reading of the reference characters and lead lines. If it is not possible to place reference characters outside the hatched area, the hatching may be broken off wherever reference characters are inserted. Hatching must be at a substantial angle to the surrounding axes or principal lines, preferably 45°. A cross section must be set out and drawn to show all of the materials as they are shown in the view from which the cross section was taken. The parts in cross section must show proper material(s) by hatching with regularly spaced parallel oblique strokes, the space between strokes being chosen on the basis of the total area to be hatched. The various parts of a cross section of the same item should be hatched in the same manner and should accurately and graphically indicate the nature of the material(s) that is illustrated in cross section. The hatching of juxtaposed different elements must be angled in a different way. In the case of large areas, hatching may be confined to an edging drawn around the entire inside of the outline of the area to be hatched. Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section.

(4) **Alternate position.** A moved position may be shown by a broken line superimposed upon a suitable view if this can be done without crowding; otherwise, a separate view must be used for this purpose.

(5) **Modified forms.** Modified forms of construction must be shown in separate views.

(i) **Arrangement of views.** One view must not be placed upon another or within the outline of another. All views on the same sheet should stand in the same direction and, if possible, stand so that they can be read with the sheet held in an upright position. If views wider than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side so that the top of the sheet, with the appropriate top margin to be used as the heading space, is on the right-hand side. Words must appear in a horizontal, left-to-right fashion when the page is either upright or turned so that the top becomes the right side, except for graphs utilizing standard scientific convention to denote the axis of abscissas (of X) and the axis of ordinates (of Y).

(j) **Front page view.** The drawing must contain as many views as necessary to show the invention. One of the views should be suitable for inclusion on the front page of the patent application publication and patent as the illustration of the invention. Views must not be connected by projection lines and must not contain center lines. Applicant may suggest a single view (by figure number) for inclusion on the front page of the patent application publication and patent.

(k) **Scale.** The scale to which a drawing is made must be large enough to show the mechanism without crowding when the drawing is reduced in size to two-thirds in reproduction. Indications such as "actual size" or "scale 1/2" on the drawings are not permitted since these lose their meaning with reproduction in a different format.

(l) **Character of lines, numbers, and letters.** All drawings must be made by a process, which will give them satisfactory reproduction characteristics. Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined. The weight of all lines and letters must be heavy enough to permit adequate reproduction. This requirement applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. Lines and strokes of different thickness may be used in the same drawing where different thicknesses have a different meaning.

(m) **Shading.** The use of shading in views is encouraged if it aids in understanding the invention and if it does not reduce legibility. Shading is used to indicate the surface or shape of spherical, cylindrical, and conical elements of an object. Flat parts may also be lightly shaded. Such shading is preferred in the case of parts shown in perspective, but not for cross sections. See paragraph (h)(3) of this section. Spaced lines for shading are preferred. These lines must be thin, as few in number as practicable, and they must contrast with the rest of the drawings. As a substitute for shading, heavy lines on the shade side of objects can be used except where they superimpose on each other or obscure reference characters. Light should come from the upper left corner at an angle of 45°. Surface delineations should preferably be shown by proper shading. Solid black shading areas are not permitted, except when used to represent bar graphs or color.

(n) **Symbols.** Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.

(o) **Legends.** Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

(p) **Numbers, letters, and reference characters.**

(1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, *e.g.*, encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.

(2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.

(3) Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.

(4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

(5) Reference characters not mentioned in the description shall not appear in the drawings. Reference characters mentioned in the description must appear in the drawings.

(q) **Lead lines.** Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines must not cross each other. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. Lead lines must be executed in the same way as lines in the drawing. See paragraph (l) of this section.

(r) **Arrows.** Arrows may be used at the ends of lines, provided that their meaning is clear, as follows:

(1) On a lead line, a freestanding arrow to indicate the entire section towards which it points;

(2) On a lead line, an arrow touching a line to indicate the surface shown by the line looking along the direction of the arrow;

or

(3) To show the direction of movement.

(s) **Copyright or Mask Work Notice.** A copyright or mask work notice may appear in the drawing, but must be placed within the sight of the drawing immediately below the figure representing the copyright or mask work material and be limited to letters having a print size of .32 cm. to .64 cm. (1/8 to 1/4 inches) high. The content of the notice must be limited to only those elements provided for by law. For example, "©1983 John Doe" (17 U.S.C. 401) and "*M* John Doe" (17 U.S.C. 909) would be properly limited and, under current statutes, legally sufficient notices of copyright and mask work, respectively. Inclusion of a copyright or mask work notice will be permitted only if the authorization language set forth in § 1.71(e) is included at the beginning (preferably as the first paragraph) of the specification.

(t) **Numbering of sheets of drawings.** The sheets of drawings should be numbered in consecutive Arabic numerals, starting with 1, within the sight as defined in paragraph (g) of this section. These numbers, if present, must be placed in the middle of the top of the sheet, but not in the margin. The numbers can be placed on the right-hand side if the drawing extends too close to the middle of the top edge of the usable surface. The drawing sheet numbering must be clear and larger than the numbers used as reference characters to avoid confusion. The number of each sheet should be shown by two Arabic numerals placed on either side of an oblique line, with the first being the sheet number and the second being the total number of sheets of drawings, with no other marking.

(u) **Numbering of views.**

(1) The different views must be numbered in consecutive Arabic numerals, starting with 1, independent of the numbering of the sheets and, if possible, in the order in which they appear on the drawing sheet(s). Partial views intended to form one complete view, on one or several sheets, must be identified by the same number followed by a capital letter. View numbers must be preceded by the abbreviation "FIG." Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear.

(2) Numbers and letters identifying the views must be simple and clear and must not be used in association with brackets, circles, or inverted commas. The view numbers must be larger than the numbers used for reference characters.

(v) **Security markings.** Authorized security markings may be placed on the drawings provided they are outside the sight, preferably centered in the top margin.

(w) **Corrections.** Any corrections on drawings submitted to the Office must be durable and permanent.

(x) **Holes.** No holes should be made by the applicant in the drawing sheets.

(y) **Types of drawings.** See § 1.152 for design drawings, § 1.165 for plant drawings, and § 1.173(a)(2) for reissue drawings.

37 CFR 1.121 Manner of making amendments in applications

(a) **Amendments in applications, other than reissue applications.** Amendments in applications, other than reissue applications, are made by filing a paper, in compliance with § 1.52, directing that specified amendments be made.

(b) **Specification.** Amendments to the specification, other than the claims, computer listings (§ 1.96) and sequence listings (§ 1.825), must be made by adding, deleting or replacing a paragraph, by replacing a section, or by a substitute specification, in the manner specified in this section.

(1) **Amendment to delete, replace, or add a paragraph.** Amendments to the specification, including amendment to a section heading or the title of the invention which are considered for amendment purposes to be an amendment of a paragraph, must be made by submitting:

(i) An instruction, which unambiguously identifies the location, to delete one or more paragraphs of the specification, replace a paragraph with one or more replacement paragraphs, or add one or more paragraphs;

(ii) The full text of any replacement paragraph with markings to show all the changes relative to the previous version of the paragraph. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strikethrough cannot be easily perceived;

(iii) The full text of any added paragraphs without any underlining; and

(iv) The text of a paragraph to be deleted must not be presented with strike-through or placed within double brackets. The instruction to delete may identify a paragraph by its paragraph number or include a few words from the beginning, and end, of the paragraph, if needed for paragraph identification purposes.

(2) **Amendment by replacement section.** If the sections of the specification contain section headings as provided in § 1.77(b), § 1.154(b), or § 1.163(c), amendments to the specification, other than the claims, may be made by submitting:

(i) A reference to the section heading along with an instruction, which unambiguously identifies the location, to delete that section of the specification and to replace such deleted section with a replacement section; and

(ii) A replacement section with markings to show all changes relative to the previous version of the section. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived.

(3) **Amendment by substitute specification.** The specification, other than the claims, may also be amended by submitting:

(i) An instruction to replace the specification; and

(ii) A substitute specification in compliance with §§ 1.125(b) and (c).

(4) **Reinstatement of previously deleted paragraph or section.** A previously deleted paragraph or section may be reinstated only by a subsequent amendment adding the previously deleted paragraph or section.

(5) **Presentation in subsequent amendment document.** Once a paragraph or section is amended in a first amendment document, the paragraph or section shall not be represented in a subsequent amendment document unless it is amended again or a substitute specification is provided.

(c) **Claims.** Amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) **Claim listing.** All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (*e.g.*, Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) **When claim text with markings is required.** All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn–currently amended."

(3) **When claim text in clean version is required.** The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, *i.e.*, without any

markings in the presentation of text. The presentation of a clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, *i.e.*, without any underlining.

(4) **When claim text shall not be presented; canceling a claim.**

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

(5) **Reinstatement of previously canceled claim.** A claim which was previously canceled may be reinstated only by adding the claim as a "new" claim with a new claim number.

(d) **Drawings.** One or more application drawings shall be amended in the following manner: Any changes to an application drawing must be in compliance with § 1.84 and must be submitted on a replacement sheet of drawings which shall be an attachment to the amendment document and, in the top margin, labeled "Replacement Sheet". Any replacement sheet of drawings shall include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is amended. Any new sheet of drawings containing an additional figure must be labeled in the top margin as "New Sheet". All changes to the drawings shall be explained, in detail, in either the drawing amendment or remarks section of the amendment paper.

(1) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be included. The marked-up copy must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change to the drawings.

(2) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, must be provided when required by the examiner.

(e) **Disclosure consistency.** The disclosure must be amended, when required by the Office, to correct inaccuracies of description and definition, and to secure substantial correspondence between the claims, the remainder of the specification, and the drawings.

(f) **No new matter.** No amendment may introduce new matter into the disclosure of an application.

(g) **Exception for examiner's amendments.** Changes to the specification, including the claims, of an application made by the Office in an examiner's amendment may be made by specific instructions to insert or delete subject matter set forth in the examiner's amendment by identifying the precise point in the specification or the claim(s) where the insertion or deletion is to be made. Compliance with paragraphs (b)(1), (b)(2), or (c) of this section is not required.

(h) **Amendment sections.** Each section of an amendment document (*e.g.*, amendment to the claims, amendment to the specification, replacement drawings, and remarks) must begin on a separate sheet.

(i) **Amendments in reissue applications.** Any amendment to the description and claims in reissue applications must be made in accordance with § 1.173.

(j) **Amendments in reexamination proceedings.** Any proposed amendment to the description and claims in patents involved in reexamination proceedings must be made in accordance with § 1.530.

(k) **Amendments in provisional applications.** Amendments in provisional applications are not usually made. If an amendment is made to a provisional application, however, it must comply with the provisions of this section. Any amendments to a provisional application shall be placed in the provisional application file but may not be entered.

37 CFR 1.152 Design drawings

The design must be represented by a drawing that complies with the requirements of § 1.84 and must contain a sufficient number of views to constitute a complete disclosure of the appearance of the design. Appropriate and adequate surface shading should be used to show the character or contour of the surfaces represented. Solid black surface shading is not permitted except when used to represent the color black as well as color contrast. Broken lines may be used to show visible environmental structure, but may not be used to show hidden planes and surfaces that cannot be seen through opaque materials. Alternate positions of a design component, illustrated by full and broken lines in the same view are not permitted in a design drawing. Photographs and ink drawings are not permitted to be combined as formal drawings in one application. Photographs submitted in lieu of ink drawings in design patent applications must not disclose environmental structure but must be limited to the design claimed for the article.

37 CFR 1.153 Title, description and claim, oath or declaration

(a) The title of the design must designate the particular article. No description, other than a reference to the drawing, is ordinarily required. The claim shall be in formal terms to the ornamental design for the article (specifying name) as shown, or as shown and described. More than one claim is neither required nor permitted.

(b) The oath or declaration required of the applicant must comply with § 1.63.

37 CFR 1.154 Arrangement of application elements in a design application

(a) The elements of the design application, if applicable, should appear in the following order:

(1) Design application transmittal form.

(2) Fee transmittal form.

(3) Application data sheet (see § 1.76).

(4) Specification.

(5) Drawings or photographs.

(6) Executed oath or declaration (see § 1.153(b)).

(b) The specification should include the following sections in order:

(1) Preamble, stating the name of the applicant, title of the design, and a brief description of the nature and intended use of the article in which the design is embodied.

(2) Cross-reference to related applications (unless included in the application data sheet).

(3) Statement regarding federally sponsored research or development.

(4) Description of the figure or figures of the drawing.

(5) Feature description.

(6) A single claim.

(c) The text of the specification sections defined in paragraph (b) of this section, if applicable, should be preceded by a section heading in uppercase letters without underlining or bold type.

37 CFR 1.155 Expedited examination of design applications

(a) The applicant may request that the Office expedite the examination of a design application. To qualify for expedited examination:

(1) The application must include drawings in compliance with § 1.84;

(2) The applicant must have conducted a pre-examination search; and

(3) The applicant must file a request for expedited examination including:

(i) The fee set forth in § 1.17(k);

and

(ii) A statement that a pre-examination search was conducted. The statement must also indicate the field of search and include an information disclosure statement in compliance with § 1.98.

(b) The Office will not examine an application that is not in condition for examination (*e.g.*, missing basic filing fee) even if the applicant files a request for expedited examination under this section.

UNITED STATES PATENT AND TRADEMARK OFFICE

An Agency of the United States Department of Commerce